Solid Carbide Cutting Tools

PARA TOOLING

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Cutting Conditions

SPEED per material group - m/min

MATERIAL GROUP		CUTTING SPEEDS Vc (m/min)	
	Rm (N/mm²)	min	max
Carbon Steel	<600	120	240
Alloy Steel	<1200	80	180
High Alloy Steel	<1400	50	120
Aust./Ferr. Stainless Steel	<680	60	140
Mart. Stainless Steel	<820	40	120
Grey Cast Iron		80	180
Cast Iron		60	140
Copper Alloys		160	600
Aluminium Alloys		160	500
High temp. Alloys Fe, Ni and Co based	<3300	30	80
Titanium Alloys	<2100	40	90

FORMULAS

$n = (v_c \times 1000) / (D_c \times \pi)$

$v_c = (D_c \times \pi \times n) / 1000$

$f_z = v_f / (z \times n)$

$v_f = f_z \times z \times n$

$Q = a_e \times a_p \times v_f$

Tolerances

Diameter range	Cutting diameter Ød-h9	Shank Ød1-h5
d ≤ 3	0 -0,025	0 -0,004
3 < d ≤ 6	0 -0,030	0 -0,005
6 < d ≤ 10	0 -0,036	0 -0,006
10 < d ≤ 18	0 -0,043	0 -0,008
18 < d ≤ 30	0 -0,052	0 -0,009

PROFILING

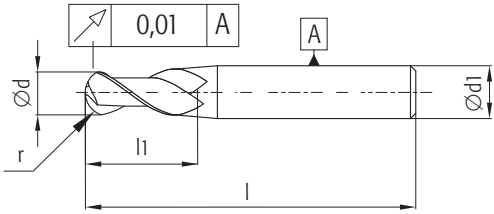
SLOTTING

CONTOURING

FEED Application/diameter - mm/t

Ø	PROFILING			SLOTTING		CONTOURING	
	a_e = 0,4 x Dc a_p = 1,25 x Dc	a_e = 0,2 x Dc a_p = 1,5 x Dc	a_e = 0,05 x Dc a_p = 2,0 x Dc	a_e = 1,0 x Dc a_p = 0,5 x Dc	a_e = 1,0 x Dc a_p = 1,0 x Dc	a_e = 0,4 x Dc a_p = 0,1 x Dc	a_e = 0,2 x Dc a_p = 0,05 x Dc
	Roughing	Semi finishing	Finishing	0,5xD	1,0xD	Semi finishing	Finishing
	f_z	f_z	f_z	f_z	f_z	f_z	f_z
1	0,005	0,007	0,009	0,008	0,005	0,020	0,040
2	0,008	0,009	0,011	0,010	0,008	0,030	0,050
3	0,015	0,025	0,035	0,020	0,010	0,040	0,060
4	0,020	0,030	0,045	0,025	0,013	0,050	0,080
5	0,025	0,035	0,055	0,030	0,015	0,060	0,100
6	0,030	0,040	0,065	0,035	0,020	0,070	0,120
8	0,035	0,045	0,075	0,045	0,030	0,080	0,140
10	0,040	0,055	0,085	0,055	0,040	0,100	0,180
12	0,050	0,065	0,095	0,065	0,050	0,120	0,200
16	0,070	0,090	0,115	0,075	0,060	0,140	0,220
20	0,090	0,110	0,130	0,085	0,075	0,160	0,250

BT2



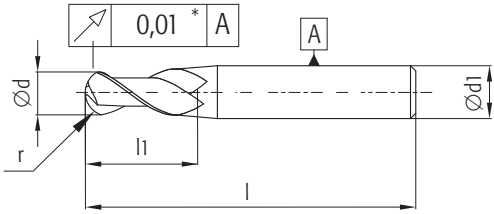
TiAlN coated

2 Flute Ballnose 30°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r mm	z	Price (Euro)
BT2 1,0x40	1,0	3	40	3	0,50	2	8,91
BT2 1,5x40	1,5	3	40	5	0,75	2	8,91
BT2 2,0x40	2,0	3	40	7	1,00	2	8,91
BT2 2,5x40	2,5	3	40	7	1,25	2	8,91
BT2 3,0x40	3,0	3	40	10	1,50	2	8,91
BT2 3,5x50	3,5	4	50	12	1,75	2	9,49
BT2 4,0x50	4,0	4	50	15	2,00	2	9,49
BT2 4,5x50	4,5	5	50	15	2,25	2	10,06
BT2 5,0x50	5,0	5	50	15	2,50	2	10,06
BT2 6,0x65	6,0	6	65	20	3,00	2	12,93
BT2 7,0x65	7,0	8	65	20	3,50	2	16,67
BT2 8,0x65	8,0	8	65	20	4,00	2	16,67
BT2 9,0x70	9,0	10	70	22	4,50	2	22,42
BT2 10,0x70	10,0	10	70	22	5,00	2	22,42
BT2 11,0x70	11,0	11	70	25	5,50	2	29,61
BT2 12,0x80	12,0	12	80	25	6,00	2	35,65
BT2 14,0x90	14,0	14	90	30	7,00	2	49,16
BT2 16,0x90	16,0	16	90	32	8,00	2	62,67
BT2 18,0x100	18,0	18	100	35	9,00	2	82,80
BT2 20,0x100	20,0	20	100	38	10,00	2	94,87

Only even shanks starting from Ø6 mm available with Weldon shank
All items are available uncoated

BTL



* For endmills L < 100 mm

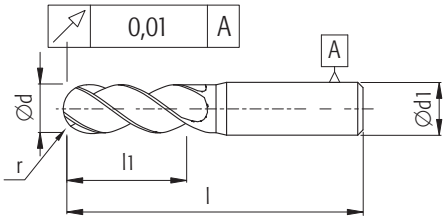
TiAlN coated

2 Flute Ballnose 30° long length

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r mm	z	Price (Euro)
BTL2 1,0x50	1,0	4	50	3	0,50	2	11,21
BTL2 1,5x50	1,5	4	50	4	0,75	2	11,21
BTL2 2,0x50	2,0	6	50	5	1,00	2	13,80
BTL2 3,0x60	3,0	6	60	8	1,50	2	14,66
BTL2 4,0x70	4,0	6	70	8	2,00	2	16,10
BTL2 5,0x80	5,0	6	80	10	2,50	2	17,25
BTL2 6,0x90	6,0	6	90	12	3,00	2	18,40
BTL2 8,0x100	8,0	8	100	14	4,00	2	23,00
BTL2 10,0x100	10,0	10	100	18	5,00	2	29,04
BTL2 12,0x110	12,0	12	110	22	6,00	2	40,83
BTXL2 2,0x80	2,0	3	80	6	1,00	2	16,10
BTXL2 3,0x100	3,0	3	100	8	1,50	2	20,70
BTXL2 4,0x100	4,0	4	100	8	2,00	2	20,70
BTXL2 5,0x120	5,0	6	120	10	2,50	2	23,00
BTXL2 6,0x120	6,0	6	120	10	3,00	2	23,00
BTXL2 8,0x140	8,0	8	140	14	4,00	2	32,49
BTXL2 10,0x180	10,0	10	180	18	5,00	2	40,83
BTXL2 12,0x200	12,0	12	200	22	6,00	2	50,31

Starting from shank Ø6 mm available with Weldon shank

BT3



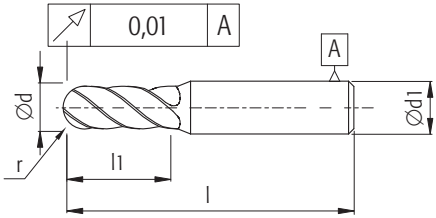
TiAlN coated

3 Flute Ballnose 30°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r mm	z	Price (Euro)
BT3 1,0x40	1,0	3	40	3	0,50	3	8,91
BT3 1,5x40	1,5	3	40	5	0,75	3	8,91
BT3 2,0x40	2,0	3	40	7	1,00	3	8,91
BT3 2,5x40	2,5	3	40	7	1,25	3	8,91
BT3 3,0x40	3,0	3	40	10	1,50	3	8,91
BT3 3,5x50	3,5	4	50	12	1,75	3	9,49
BT3 4,0x50	4,0	4	50	15	2,00	3	9,49
BT3 4,5x50	4,5	5	50	15	2,25	3	10,06
BT3 5,0x50	5,0	5	50	15	2,50	3	10,06
BT3 6,0x65	6,0	6	65	20	3,00	3	12,36
BT3 7,0x65	7,0	8	65	20	3,50	3	16,10
BT3 8,0x65	8,0	8	65	20	4,00	3	16,10
BT3 9,0x70	9,0	10	70	22	4,50	3	21,85
BT3 10,0x70	10,0	10	70	22	5,00	3	21,85
BT3 11,0x70	11,0	11	70	25	5,50	3	29,04
BT3 12,0x80	12,0	12	80	25	6,00	3	35,08
BT3 14,0x90	14,0	14	90	30	7,00	3	48,59
BT3 16,0x90	16,0	16	90	32	8,00	3	62,10
BT3 18,0x100	18,0	18	100	35	9,00	3	82,23
BT3 20,0x100	20,0	20	100	38	10,00	3	94,30

Only even shanks starting from Ø6 mm available with Weldon shank
All items are available uncoated

BT4



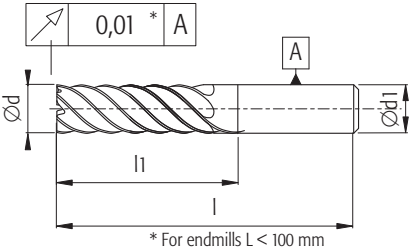
TiAlN coated

4 Flute Ballnose 30°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r mm	z	Price (Euro)
BT4 1,0x40	1,0	3	40	3	0,50	4	8,91
BT4 1,5x40	1,5	3	40	5	0,75	4	8,91
BT4 2,0x40	2,0	3	40	7	1,00	4	8,91
BT4 2,5x40	2,5	3	40	7	1,25	4	8,91
BT4 3,0x40	3,0	3	40	10	1,50	4	8,91
BT4 3,5x50	3,5	4	50	12	1,75	4	9,49
BT4 4,0x50	4,0	4	50	15	2,00	4	9,49
BT4 4,5x50	4,5	5	50	15	2,25	4	10,06
BT4 5,0x50	5,0	5	50	15	2,50	4	10,06
BT4 6,0x65	6,0	6	65	20	3,00	4	12,36
BT4 7,0x65	7,0	8	65	20	3,50	4	16,10
BT4 8,0x65	8,0	8	65	20	4,00	4	16,10
BT4 9,0x70	9,0	10	70	22	4,50	4	21,85
BT4 10,0x70	10,0	10	70	22	5,00	4	21,85
BT4 11,0x70	11,0	11	70	25	5,50	4	29,04
BT4 12,0x80	12,0	12	80	25	6,00	4	35,08
BT4 14,0x90	14,0	14	90	30	7,00	4	48,59
BT4 16,0x90	16,0	16	90	32	8,00	4	62,10
BT4 18,0x100	18,0	18	100	35	9,00	4	82,23
BT4 20,0x100	20,0	20	100	38	10,00	4	94,30

Only even shanks starting from Ø6 mm available with Weldon shank
All items are available uncoated

MS



* For endmills L < 100 mm

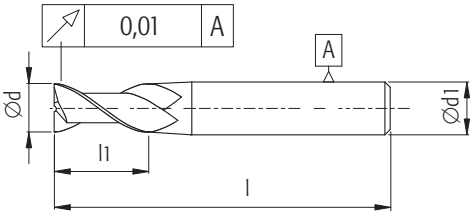
TiAlN coated

Multiple Flute Straight 45°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r mm	z	Price (Euro)
MS 6,0x58	6,0	6	58	13		6	14,66
MS 8,0x65	8,0	8	65	19		6	17,83
MS 10,0x72	10,0	10	72	22		6	26,74
MS 12,0x83	12,0	12	83	26		6	35,65
MS 16,0x92	16,0	16	92	32		6	59,23
MS 18,0x92	18,0	20	92	32		8	88,84
MS 20,0x103	20,0	20	103	38		8	112,41
MSL 6,0x70	6,0	6	70	26		6	19,55
MSL 8,0x90	8,0	8	90	36		6	21,85
MSL 10,0x100	10,0	10	100	46		6	30,76
MSL 12,0x110	12,0	12	110	56		6	41,98
MSL 16,0x130	16,0	16	130	66		6	67,56
MSL 20,0x140	20,0	20	140	76		6	130,53

Starting from shank Ø6 mm available with Weldon shank

ST2



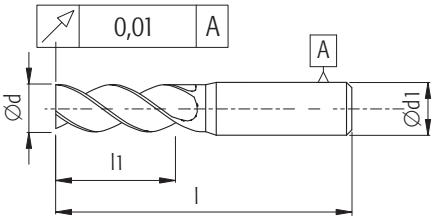
TiAlN coated

2 Flute Straight 30°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r mm	z	Price (Euro)
ST2 1,0x40	1,0	3	40	3		2	8,34
ST2 1,5x40	1,5	3	40	5		2	8,34
ST2 2,0x40	2,0	3	40	7		2	8,34
ST2 2,5x40	2,5	3	40	7		2	8,34
ST2 3,0x40	3,0	3	40	10		2	8,34
ST2 3,5x50	3,5	4	50	12		2	8,91
ST2 4,0x50	4,0	4	50	15		2	8,91
ST2 4,5x50	4,5	5	50	15		2	9,49
ST2 5,0x50	5,0	5	50	15		2	9,49
ST2 6,0x65	6,0	6	65	20		2	12,36
ST2 7,0x65	7,0	8	65	20		2	16,10
ST2 8,0x65	8,0	8	65	20		2	16,10
ST2 9,0x70	9,0	10	70	22		2	21,85
ST2 10,0x70	10,0	10	70	22		2	21,85
ST2 11,0x70	11,0	11	70	25		2	29,04
ST2 12,0x80	12,0	12	80	25		2	34,79
ST2 14,0x90	14,0	14	90	30		2	48,59
ST2 16,0x90	16,0	16	90	32		2	62,10
ST2 18,0x100	18,0	18	100	35		2	82,23
ST2 20,0x100	20,0	20	100	38		2	94,30

Only even shanks starting from Ø6 mm available with Weldon shank
All items are available uncoated

ST3



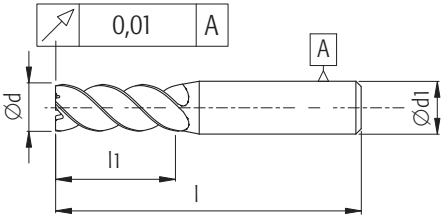
TiAlN coated

3 Flute Straight 30°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r mm	z	Price (Euro)
ST3 1,0x40	1,0	3	40	3		3	8,34
ST3 1,5x40	1,5	3	40	5		3	8,34
ST3 2,0x40	2,0	3	40	7		3	8,34
ST3 2,5x40	2,5	3	40	7		3	8,34
ST3 3,0x40	3,0	3	40	10		3	8,34
ST3 3,5x50	3,5	4	50	12		3	8,91
ST3 4,0x50	4,0	4	50	15		3	8,91
ST3 4,5x50	4,5	5	50	15		3	9,49
ST3 5,0x50	5,0	5	50	15		3	9,49
ST3 6,0x65	6,0	6	65	20		3	12,36
ST3 7,0x65	7,0	8	65	20		3	16,10
ST3 8,0x65	8,0	8	65	20		3	16,10
ST3 9,0x70	9,0	10	70	22		3	21,85
ST3 10,0x70	10,0	10	70	22		3	21,85
ST3 11,0x70	11,0	11	70	25		3	29,04
ST3 12,0x80	12,0	12	80	25		3	34,79
ST3 14,0x90	14,0	14	90	30		3	48,59
ST3 16,0x90	16,0	16	90	32		3	62,10
ST3 18,0x100	18,0	18	100	35		3	82,23
ST3 20,0x100	20,0	20	100	38		3	94,30

Only even shanks starting from Ø6 mm available with Weldon shank
All items are available uncoated

ST4



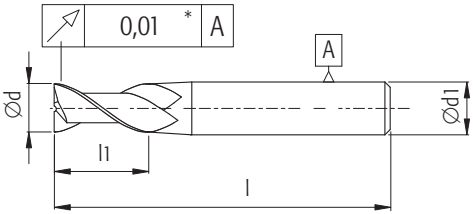
TiAlN coated

4 Flute Straight 30°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r mm	z	Price (Euro)
ST4 1,0x40	1,0	3	40	3		4	8,34
ST4 1,5x40	1,5	3	40	5		4	8,34
ST4 2,0x40	2,0	3	40	7		4	8,34
ST4 2,5x40	2,5	3	40	7		4	8,34
ST4 3,0x40	3,0	3	40	10		4	8,34
ST4 3,5x50	3,5	4	50	12		4	8,91
ST4 4,0x50	4,0	4	50	15		4	8,91
ST4 4,5x50	4,5	5	50	15		4	9,49
ST4 5,0x50	5,0	5	50	15		4	9,49
ST4 6,0x65	6,0	6	65	20		4	12,36
ST4 7,0x65	7,0	8	65	20		4	16,10
ST4 8,0x65	8,0	8	65	20		4	16,10
ST4 9,0x70	9,0	10	70	22		4	21,85
ST4 10,0x70	10,0	10	70	22		4	21,85
ST4 11,0x70	11,0	11	70	25		4	29,04
ST4 12,0x80	12,0	12	80	25		4	34,79
ST4 14,0x90	14,0	14	90	30		4	48,59
ST4 16,0x90	16,0	16	90	32		4	62,10
ST4 18,0x100	18,0	18	100	35		4	82,23
ST4 20,0x100	20,0	20	100	38		4	94,30

Only even shanks starting from Ø6 mm available with Weldon shank
All items are available uncoated

STL2



* For endmills L < 100 mm

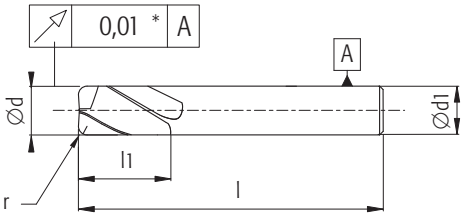
TiAlN coated

2 Flute Standard 30° long length

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r mm	z	Price (Euro)
STL2 3,0x78	3,0	6	78	15		2	17,25
STL2 4,0x78	4,0	6	78	20		2	17,25
STL2 5,0x78	5,0	6	78	25		2	17,25
STL2 6,0x78	6,0	6	78	30		2	17,25
STL2 8,0x78	8,0	8	78	35		2	21,85
STL2 10,0x100	10,0	10	100	40		2	29,04
STL2 12,0x100	12,0	12	100	50		2	40,83
STL2 16,0x150	16,0	16	150	75		2	74,18
STL2 20,0x150	20,0	20	150	75		2	112,70

Starting from shank Ø6 mm available with Weldon shank

STR2



* For endmills L < 100 mm

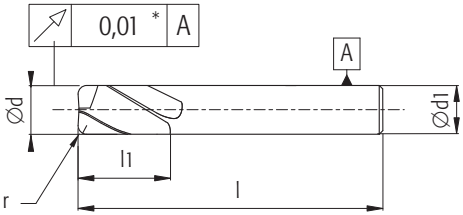
TiAlN coated

2 Flute Standard 30° with corner radius

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r	z	Price (Euro)
STR2 3,0x50 R=0,3	3,0	6	50	12	0,3	2	17,25
STR2 4,0x50 R=0,3	4,0	6	50	15	0,3	2	17,25
STR2 4,0x50 R=0,5	4,0	6	50	15	0,5	2	17,25
STR2 5,0x60 R=0,3	5,0	6	60	20	0,3	2	17,25
STR2 5,0x60 R=0,5	5,0	6	60	20	0,5	2	17,25
STR2 6,0x60 R=0,3	6,0	6	60	20	0,3	2	17,25
STR2 6,0x60 R=0,5	6,0	6	60	20	0,5	2	17,25
STR2 6,0x60 R=1,0	6,0	6	60	20	1,0	2	17,25
STR2 8,0x70 R=0,3	8,0	8	70	25	0,3	2	20,70
STR2 8,0x70 R=0,5	8,0	8	70	25	0,5	2	20,70
STR2 8,0x70 R=1,0	8,0	8	70	25	1,0	2	20,70
STR2 8,0x70 R=1,5	8,0	8	70	25	1,5	2	20,70
STR2 8,0x70 R=2,0	8,0	8	70	25	2,0	2	20,70
STR2 10,0x90 R=0,3	10,0	10	90	30	0,3	2	29,61
STR2 10,0x90 R=0,5	10,0	10	90	30	0,5	2	29,61
STR2 10,0x90 R=1,0	10,0	10	90	30	1,0	2	29,61
STR2 10,0x90 R=1,5	10,0	10	90	30	1,5	2	29,61
STR2 10,0x90 R=2,0	10,0	10	90	30	2,0	2	29,61
STR2 12,0x90 R=0,5	12,0	12	90	30	0,5	2	43,41
STR2 12,0x90 R=1,0	12,0	12	90	30	1,0	2	43,41
STR2 12,0x90 R=1,5	12,0	12	90	30	1,5	2	43,41
STR2 12,0x90 R=2,0	12,0	12	90	30	2,0	2	43,41
STR2 16,0x110 R=0,5	16,0	16	110	50	0,5	2	77,05
STR2 16,0x110 R=1,0	16,0	16	110	50	1,0	2	77,05
STR2 16,0x110 R=1,5	16,0	16	110	50	1,5	2	77,05
STR2 16,0x110 R=2,0	16,0	16	110	50	2,0	2	77,05
STR2 20,0x110 R=0,5	20,0	20	110	50	0,5	2	130,53
STR2 20,0x110 R=1,0	20,0	20	110	50	1,0	2	130,53
STR2 20,0x110 R=1,5	20,0	20	110	50	1,5	2	130,53
STR2 20,0x110 R=2,0	20,0	20	110	50	2,0	2	130,53

Starting from shank Ø6 mm available with Weldon shank

STR4



* For endmills L < 100 mm

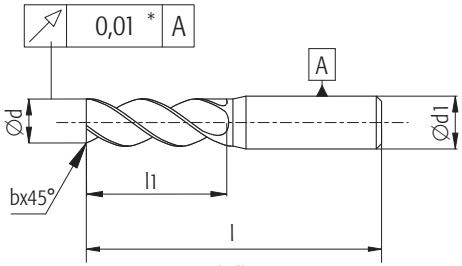
TiAlN coated

4 Flute Standard 30° with corner radius

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	r	z	Price (Euro)
STR4 3,0x50 R=0,3	3,0	6	50	12	0,3	4	17,25
STR4 4,0x50 R=0,3	4,0	6	50	15	0,3	4	17,25
STR4 4,0x50 R=0,5	4,0	6	50	15	0,5	4	17,25
STR4 5,0x60 R=0,3	5,0	6	60	20	0,3	4	17,25
STR4 5,0x60 R=0,5	5,0	6	60	20	0,5	4	17,25
STR4 6,0x60 R=0,3	6,0	6	60	20	0,3	4	17,25
STR4 6,0x60 R=0,5	6,0	6	60	20	0,5	4	17,25
STR4 6,0x60 R=1,0	6,0	6	60	20	1,0	4	17,25
STR4 8,0x70 R=0,3	8,0	8	70	25	0,3	4	20,70
STR4 8,0x70 R=0,5	8,0	8	70	25	0,5	4	20,70
STR4 8,0x70 R=1,0	8,0	8	70	25	1,0	4	20,70
STR4 8,0x70 R=1,5	8,0	8	70	25	1,5	4	20,70
STR4 8,0x70 R=2,0	8,0	8	70	25	2,0	4	20,70
STR4 10,0x90 R=0,3	10,0	10	90	30	0,3	4	29,61
STR4 10,0x90 R=0,5	10,0	10	90	30	0,5	4	29,61
STR4 10,0x90 R=1,0	10,0	10	90	30	1,0	4	29,61
STR4 10,0x90 R=1,5	10,0	10	90	30	1,5	4	29,61
STR4 10,0x90 R=2,0	10,0	10	90	30	2,0	4	29,61
STR4 12,0x90 R=0,5	12,0	12	90	30	0,5	4	43,41
STR4 12,0x90 R=1,0	12,0	12	90	30	1,0	4	43,41
STR4 12,0x90 R=1,5	12,0	12	90	30	1,5	4	43,41
STR4 12,0x90 R=2,0	12,0	12	90	30	2,0	4	43,41
STR4 16,0x110 R=0,5	16,0	16	110	50	0,5	4	77,05
STR4 16,0x110 R=1,0	16,0	16	110	50	1,0	4	77,05
STR4 16,0x110 R=1,5	16,0	16	110	50	1,5	4	77,05
STR4 16,0x110 R=2,0	16,0	16	110	50	2,0	4	77,05
STR4 20,0x110 R=0,5	20,0	20	110	50	0,5	4	130,53
STR4 20,0x110 R=1,0	20,0	20	110	50	1,0	4	130,53
STR4 20,0x110 R=1,5	20,0	20	110	50	1,5	4	130,53
STR4 20,0x110 R=2,0	20,0	20	110	50	2,0	4	130,53

Starting from shank Ø6 mm available with Weldon shank

RS3



* For endmills L < 100 mm

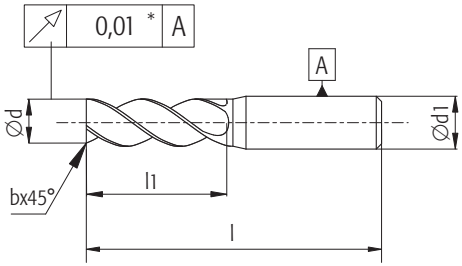
TiAlN coated

3 Flute Roughing 45°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	b mm	z	Price (Euro)
RS3 2,0x40	2,0	3	40	8	0,10	3	8,91
RS3 3,0x40	3,0	3	40	10	0,10	3	8,91
RS3 4,0x50	4,0	4	50	12	0,10	3	10,06
RS3 5,0x50	5,0	5	50	15	0,15	3	10,06
RS3 6,0x65	6,0	6	65	15	0,15	3	14,95
RS3 8,0x65	8,0	8	65	20	0,20	3	19,55
RS3 10,0x70	10,0	10	70	22	0,20	3	27,89
RS3 12,0x80	12,0	12	80	25	0,25	3	35,08
RS3 16,0x90	16,0	16	90	35	0,25	3	53,48
RS3 20,0x102	20,0	20	102	40	0,25	3	94,88

Starting from shank Ø6 mm available with Weldon shank

RS4



* For endmills L < 100 mm

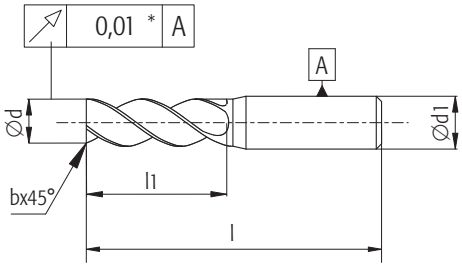
TiAlN coated

4 Flute Roughing 50°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	b	z	Price (Euro)
RS4 3,0x40	3,0	3	40	10	0,10	4	13,51
RS4 4,0x50	4,0	4	50	12	0,10	4	15,53
RS4 5,0x50	5,0	5	50	15	0,15	4	17,25
RS4 6,0x65	6,0	6	65	15	0,15	4	20,70
RS4 8,0x65	8,0	8	65	20	0,20	4	25,59
RS4 10,0x70	10,0	10	70	22	0,20	4	32,49
RS4 12,0x80	12,0	12	80	25	0,25	4	40,25
RS4 16,0x90	16,0	16	90	35	0,25	4	62,68
RS4 20,0x102	20,0	20	102	42	0,25	4	100,63

Starting from shank Ø6 mm available with Weldon shank

RV4



* For endmills L < 100 mm

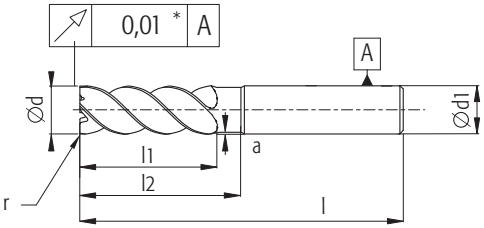
TiAlN coated

4 Flute Roughing 35°-38° with chamfer

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	b	z	Price (Euro)
RV4 4,0x57	4,0	6	57	11	0,25	4	17,83
RV4 5,0x57	5,0	6	57	13	0,25	4	17,83
RV4 6,0x57	6,0	6	57	13	0,25	4	17,83
RV4 8,0x63	8,0	8	63	19	0,25	4	27,31
RV4 10,0x72	10,0	10	72	22	0,25	4	37,38
RV4 12,0x83	12,0	12	83	26	0,25	4	46,29
RV4 16,0x92	16,0	16	92	32	0,25	4	69,86
RV4 20,0x104	20,0	20	104	38	0,40	4	106,66

Starting from shank Ø6 mm available with Weldon shank

RVR



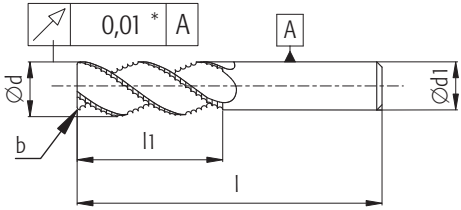
TiAlN coated

4 Flute Roughing 35°-38° with corner radius

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	l2 mm	r	z	Price (Euro)
RVR 3,0x57 R=0,25	3,0	6	57	11,0		0,25	4	21,97
RVR 3,0x57 L021 R=0,25	3,0	6	57	11,0	21	0,25	4	23,12
RVR 3,0x57 R=0,50	3,0	6	57	13,0		0,50	4	21,97
RVR 3,0x57 L021 R=0,50	3,0	6	57	13,0	21	0,50	4	23,12
RVR 4,0x57 R=0,50	4,0	6	57	13,0		0,50	4	21,97
RVR 4,0x57 L021 R=0,50	4,0	6	57	13,0	21	0,50	4	23,12
RVR 5,0x57 R=0,50	5,0	6	57	13,0		0,50	4	21,97
RVR 5,0x57 L021 R=0,50	5,0	6	57	13,0	21	0,50	4	23,12
RVR 6,0x57 R=0,50	6,0	6	57	13,0		0,50	4	21,97
RVR 6,0x57 L021 R=0,50	6,0	6	57	13,0	21	0,50	4	23,12
RVR 6,0x57 R=1,00	6,0	6	57	13,0		1,00	4	21,97
RVR 6,0x57 L021 R=1,00	6,0	6	57	13,0	21	1,00	4	23,12
RVR 6,0x57 R=1,50	6,0	6	57	13,0		1,50	4	21,97
RVR 6,0x57 L021 R=1,50	6,0	6	57	13,0	21	1,50	4	23,12
RVR 8,0x63 R=0,50	8,0	8	63	19,0		0,50	4	33,70
RVR 8,0x63 L028 R=0,50	8,0	8	63	19,0	28	0,50	4	35,42
RVR 8,0x63 R=1,00	8,0	8	63	19,0		1,00	4	33,70
RVR 8,0x63 L028 R=1,00	8,0	8	63	19,0	28	1,00	4	35,42
RVR 8,0x63 R=1,50	8,0	8	63	19,0		1,50	4	33,70
RVR 8,0x63 L028 R=1,50	8,0	8	63	19,0	28	1,50	4	35,42
RVR 10,0x72 R=0,50	10,0	10	72	22,0		0,50	4	46,12
RVR 10,0x72 L032 R=0,50	10,0	10	72	22,0	32	0,50	4	48,42
RVR 10,0x72 R=1,00	10,0	10	72	22,0		1,00	4	46,12
RVR 10,0x72 L032 R=1,00	10,0	10	72	22,0	32	1,00	4	48,42
RVR 10,0x72 R=1,50	10,0	10	72	22,0		1,50	4	46,12
RVR 10,0x72 L032 R=1,50	10,0	10	72	22,0	32	1,50	4	48,42
RVR 12,0x83 R=0,50	12,0	12	83	26,0		0,50	4	57,04
RVR 12,0x83 L038 R=0,50	12,0	12	83	26,0	38	0,50	4	59,92
RVR 12,0x83 R=1,50	12,0	12	83	26,0		1,50	4	57,04
RVR 12,0x83 L038 R=1,50	12,0	12	83	26,0	38	1,50	4	59,92
RVR 16,0x92 R=1,50	16,0	16	92	32,0		1,50	4	86,14
RVR 16,0x92 L044 R=1,50	16,0	16	92	32,0	44	1,50	4	90,39
RVR 16,0x92 R=3,00	16,0	16	92	32,0		3,00	4	86,14
RVR 16,0x92 L044 R=3,00	16,0	16	92	32,0	44	3,00	4	90,39

Starting from shank Ø6 mm available with Weldon shank

RSR4



* For endmills L < 100 mm

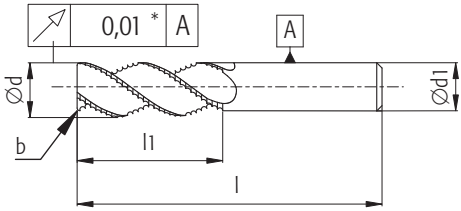
TiAlN coated

4 Flute Semi Roughing 45° with chip breaker

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	b	z	Price (Euro)
RSR4 4,0x57	4,0	6	57	11	0,25	4	18,98
RSR4 5,0x57	5,0	6	57	13	0,25	4	20,70
RSR4 6,0x57	6,0	6	57	13	0,25	4	23,00
RSR4 8,0x63	8,0	8	63	19	0,25	4	27,89
RSR4 10,0x72	10,0	10	72	22	0,25	4	37,95
RSR4 12,0x83	12,0	12	83	26	0,25	4	46,86
RSR4 16,0x92	16,0	16	92	32	0,25	4	85,10
RSR4 20,0x104	20,0	20	104	38	0,40	4	113,85

Starting from shank Ø6 mm available with Weldon shank

RR



* For endmills L < 100 mm

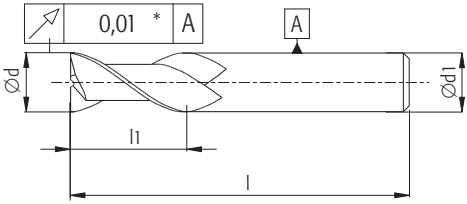
TiAlN coated

Roughing 45° with ripper profile

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	l2 mm	b	z	Price (Euro)
RR 4,0x57	4,0	6	57	11		0,25	3	25,59
RR 5,0x57	5,0	6	57	13		0,25	4	25,59
RR 6,0x57	6,0	6	57	13		0,25	4	25,59
RR 8,0x63	8,0	8	63	19		0,25	4	29,61
RR 10,0x72	10,0	10	72	22		0,25	4	42,55
RR 12,0x83	12,0	12	83	26		0,25	4	53,19
RR 16,0x92	16,0	16	92	32		0,25	5	88,84
RR 20,0x104	20,0	20	104	38		0,40	6	120,75
RR 6,0x57 L021	6,0	6	57	13	21	0,25	4	26,74
RR 8,0x63 L027	8,0	8	63	19	27	0,25	4	31,34
RR 10,0x72 L032	10,0	10	72	22	32	0,25	4	44,56
RR 12,0x83 L038	12,0	12	83	26	38	0,25	4	55,20
RR 16,0x92 L044	16,0	16	92	32	44	0,25	5	92,00
RR 20,0x104 L054	20,0	20	104	38	54	0,40	6	124,20

Standard with Weldon shank

AS2



* For endmills L < 100 mm

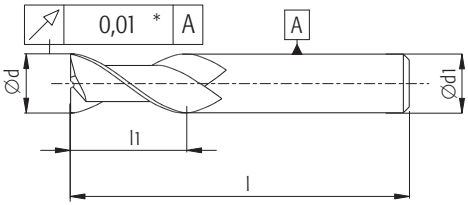
Uncoated

2 Flute Aluminium Straight 45°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	z mm	Price (Euro)
AS2 3,0x57	3,0	6	57	8	2	12,65
AS2 4,0x57	4,0	6	57	11	2	17,25
AS2 5,0x57	5,0	6	57	13	2	17,25
AS2 6,0x57	6,0	6	57	13	2	17,25
AS2 8,0x63	8,0	8	63	19	2	27,31
AS2 10,0x72	10,0	10	72	22	2	40,83
AS2 12,0x83	12,0	12	83	26	2	57,50
AS2 16,0x92	16,0	16	92	32	2	98,90
AS2 20,0x104	20,0	20	104	38	2	165,60

Starting from shank Ø6 mm available with Weldon shank

AT2



* For endmills L < 100 mm

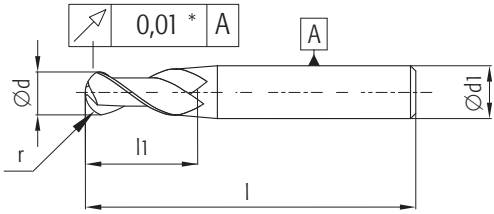
Uncoated

2 Flute Aluminium 45°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	l2 mm	z	Price (Euro)
AT2 3,0x50	3,0	3	50	10		2	14,38
AT2 4,0x50	4,0	4	50	15		2	15,53
AT2 5,0x50	5,0	5	50	20		2	16,68
AT2 6,0x80	6,0	6	80	30		2	20,70
AT2 8,0x80	8,0	8	80	30		2	31,05
AT2 10,0x90	10,0	10	90	35		2	45,43
AT2 12,0x90	12,0	12	90	35		2	56,93
AT2 14,0x100	14,0	14	100	40		2	86,25
AT2 16,0x100	16,0	16	100	40		2	96,60
AT2 18,0x120	18,0	18	120	45		2	149,50
AT2 20,0x120	20,0	20	120	45		2	161,00
AT2 3,0x50 L020	3,0	3	50	5	20	2	15,53
AT2 4,0x50 L020	4,0	4	50	7	20	2	16,68
AT2 5,0x50 L020	5,0	5	50	10	20	2	17,83
AT2 6,0x80 L040	6,0	6	80	15	40	2	21,85
AT2 8,0x80 L040	8,0	8	80	15	40	2	33,35
AT2 10,0x90 L055	10,0	10	90	17	55	2	47,15
AT2 12,0x90 L055	12,0	12	90	18	55	2	58,65
AT2 14,0x100 L064	14,0	14	100	20	64	2	89,70
AT2 16,0x100 L064	16,0	16	100	20	64	2	102,35
AT2 18,0x120 L070	18,0	18	120	23	70	2	155,25
AT2 20,0x120 L070	20,0	20	120	23	70	2	166,75

Starting from shank Ø6 mm available with Weldon shank

AB2



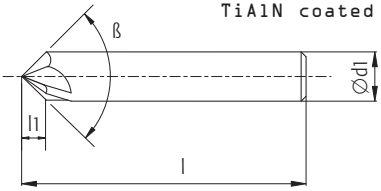
* For endmills L < 100 mm

Uncoated

2 Flute Ballnose Aluminium 45°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	l2 mm	r	z	Price (Euro)
AB2 3,0x50	3,0	3	50	10		1,5	2	15,53
AB2 4,0x50	4,0	4	50	15		2,0	2	16,68
AB2 5,0x50	5,0	5	50	20		2,5	2	17,83
AB2 6,0x80	6,0	6	80	30		3,0	2	21,85
AB2 8,0x80	8,0	8	80	30		4,0	2	33,35
AB2 10,0x90	10,0	10	90	35		5,0	2	47,15
AB2 12,0x90	12,0	12	90	35		6,0	2	58,65
AB2 14,0x100	14,0	14	100	40		7,0	2	89,70
AB2 16,0x100	16,0	16	100	40		8.0	2	102,35
AB2 18,0x120	18,0	18	120	45		9,0	2	155,25
AB2 20,0x120	20,0	20	120	45		10,0	2	166,75
AB2 3,0x50 L020	3,0	3	50	5	20	1,5	2	16,68
AB2 4,0x50 L020	4,0	4	50	7	20	2,0	2	17,83
AB2 5,0x50 L020	5,0	5	50	10	20	2,5	2	18,98
AB2 6,0x80 L040	6,0	6	80	15	40	3,0	2	24,15
AB2 8,0x80 L040	8,0	8	80	15	40	4,0	2	36,80
AB2 10,0x90 L055	10,0	10	90	17	55	5,0	2	48,88
AB2 12,0x90 L055	12,0	12	90	18	55	6,0	2	63,25
AB2 14,0x100 L064	14,0	14	100	20	64	7,0	2	90,85
AB2 16,0x100 L064	16,0	16	100	20	64	8,0	2	105,80
AB2 18,0x120 L070	18,0	18	120	23	70	9,0	2	161,00
AB2 20,0x120 L070	20,0	20	120	23	70	10,0	2	172,50

Starting from shank Ø6 mm available with Weldon shank

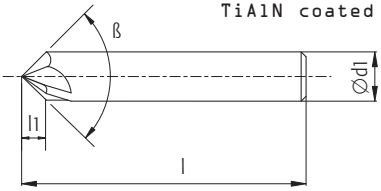


TiAlN coated

Deburring 60°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	z	Price (Euro)
CH3 1,0x39 60°	1,0	1	39	0,8	3	14,72
CH3 2,0x39 60°	2,0	2	39	1,7	3	14,72
CH3 3,0x39 60°	3,0	3	39	2,6	3	14,72
CH4 4,0x51 60°	4,0	4	51	3,5	4	16,68
CH4 6,0x64 60°	6,0	6	64	5,2	4	20,13
CH4 8,0x64 60°	8,0	8	64	6,9	4	25,88
CH5 8,0x64 60°	8,0	8	64	6,9	5	25,88
CH4 10,0x70 60°	10,0	10	70	8,7	4	30,48
CH6 10,0x70 60°	10,0	10	70	8,7	6	30,48
CH4 12,0x78 60°	12,0	12	78	10,4	4	46,00
CH6 12,0x78 60°	12,0	12	78	10,4	6	46,00
CH6 16,0x89 60°	16,0	16	89	13,8	6	88,75

Starting from shank Ø6 mm available with Weldon shank

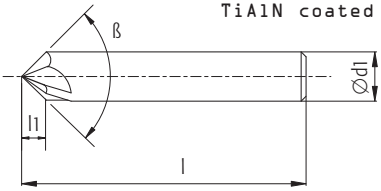


TiAlN coated

Deburring 90°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	z	Price (Euro)
CH3 1,0x39 90°	1,0	1	39	0,5	3	14,72
CH3 2,0x39 90°	2,0	2	39	1,0	3	14,72
CH3 3,0x39 90°	3,0	3	39	1,5	3	14,72
CH4 4,0x51 90°	4,0	4	51	2,0	4	16,68
CH4 6,0x64 90°	6,0	6	64	3,0	4	20,13
CH4 8,0x64 90°	8,0	8	64	4,0	4	25,88
CH5 8,0x64 90°	8,0	8	64	4,0	5	25,88
CH4 10,0x70 90°	10,0	10	70	5,0	4	30,48
CH6 10,0x70 90°	10,0	10	70	5,0	6	30,48
CH4 12,0x78 90°	12,0	12	78	6,0	4	46,00
CH6 12,0x78 90°	12,0	12	78	6,0	6	46,00
CH6 16,0x89 90°	16,0	16	89	8,0	6	88,75
CH6 20,0x104 90°	20,0	20	104	10,0	6	128,75

Starting from shank Ø6 mm available with Weldon shank



TiAlN coated

Deburring 120°

Art code	d(h9) mm	d1(h5) mm	l mm	l1 mm	z	Price (Euro)
CH3 1,0x39 120°	1,0	1	39	0,2	3	14,72
CH3 2,0x39 120°	2,0	2	39	0,5	3	14,72
CH3 3,0x39 120°	3,0	3	39	0,8	3	14,72
CH4 4,0x51 120°	4,0	4	51	1,1	4	16,68
CH4 6,0x64 120°	6,0	6	64	1,7	4	20,13
CH4 8,0x64 120°	8,0	8	64	2,3	4	25,88
CH5 8,0x64 120°	8,0	8	64	2,3	5	25,88
CH4 10,0x70 120°	10,0	10	70	2,8	4	30,48
CH6 10,0x70 120°	10,0	10	70	2,8	6	30,48
CH4 12,0x78 120°	12,0	12	78	3,4	4	46,00
CH6 12,0x78 120°	12,0	12	78	3,4	6	46,00
CH6 16,0x89 120°	16,0	16	89	4,6	6	88,75

Starting from shank Ø6 mm available with Weldon shank